

## **REMARKS**

This is a full and timely response to the outstanding Office Action mailed November 4, 2004. Upon entry of the amendments in this response, claims 2, 5, 13-16, 18-20 and 33-37 remain pending. In particular, Applicants have amended claims 2, 5, 15 and 18-19. Claims 1, 3-4, 6-12, 17, and 21-32 are canceled without prejudice, disclaimer, or waiver, and claims 33-37 are newly added. Applicants reserve the right to pursue the subject matter of the canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate the canceled subject matter to the public. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

### **A. Rejections of claims under 35 U.S.C. §102**

#### **1) Statement of the rejection**

The Office Action states: “*Claims 2-4, 6, 7, 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Siedband (US Patent 5,308,988).*”

#### **Response to the rejection**

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. Accordingly, the single prior art reference must properly disclose, teach or suggest each element of the claimed invention. Provided below are the responses to each of the rejections of claims 2-4, 6, 7, and 15-17 under 35 U.S.C. §102(b).

#### **Claim 2**

In rejecting Applicants’ claim 2, the Office Action states:

Siedband teaches an X-ray imaging system comprising: a gas detector (14) configured to retain a volume of gas, the gas detector having a first detection circuit corresponding to a first region of the gas and a second detection circuit corresponding to a second region of the gas (Figs. 1 and 2), the first detection circuit (as square anode (22)) being adapted to provide a first signal indicative of an intensity of a first portion of x-rays radiating into the first region of the gas, the second detection circuit (any another anode (22)) being adapted to provide a second signal indicative of an intensity of a second portion of x-rays concurrently radiating into the second region of the gas, the first portion of x-rays being different than the second portion of x-rays, wherein the gas detector (14) includes a substrate (32); and a chamber supported by substrate, the wherein the volume of gas is retained within the chamber. Further, With respect to claim each anode (22) defines a sell of a single, independent ionization chamber (column 2; lines 10-24 and column 3; lines 16-29).

Applicants have amended claim 2 to provide a better definition of Applicants' invention. This has been carried out in part, by incorporating the term "chamber." Applicants have described this chamber in their specification on page 12, lines 15-16, as: "*(E)ach of the chambers defines a region that can be occupied by a volume of gas...*," and have provided figures 6 and 8 to illustrate two exemplary chambers.

Also added in claim 2, is an "x-ray stopping component." Attention is drawn to the text of the specification on page 12, line 22 through page 13, line 2, in which the x-ray stopping component has been described as follows:

*Gas detector 100 of FIG. 8 also includes x-ray stopping components 808 that are arranged between at least some of the chambers. The x-ray stopping components aid in the absorption of off-axis photons, thereby increasing resolution of the detector. The x-ray stopping components can be formed of various metals such as lead.*

Applicants have been unable to find in Siedband a chamber such as defined in Applicants' claim 2, moreso one that is defined at least in part by an x-ray stopping component.

Consequently, for at least the above-mentioned reasons, Applicants respectfully assert that the single prior art reference (Siedband ) does not properly disclose, teach or suggest each element of the claimed invention, as is required for a proper rejection of claim 2 under 35 U.S.C. §102(b). Applicants therefore request withdrawal of the Office Action rejection of claim 2, followed by allowance.

#### **Claims 3, 4, 6, and 7**

Claims 3, 4, 6, and 7 have been canceled without prejudice, waiver or disclaimer. These claims have been canceled merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application. Because claims 3, 4, 6, and 7 have been canceled, the rejection of these claims has been rendered moot.

#### **Claim 15**

Applicants have amended method claim 15 to clarify certain method steps. Specifically, currently amended method claim 15 includes "*providing a first and a second chamber isolated in part from one another by an x-ray stopping component.*" Such an element is not disclosed in the cited prior art of Siedband. Consequently, for at least this reason, Applicants respectfully assert that the single prior art reference (Siedband ) does not properly disclose, teach or suggest each

element of the claimed invention, as is required for a proper rejection of claim 2 under 35 U.S.C. §102(b). Applicants therefore request withdrawal of the Office Action rejection of claim 15, followed by allowance.

**Claim 16**

Applicants respectfully assert that independent claim 15 is allowable. Because independent claim 15 is allowable, claim 16 that depends directly on claim 15 is also allowable as a matter of law. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request that rejection of claim 16 under 35 U.S.C. §102(b) be withdrawn, and that this claim be placed in allowance.

**Claim 17**

Claim 17 has been canceled without prejudice, waiver or disclaimer. This claim has been canceled merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application. Because claim 17 has been canceled, the rejection of this claim has been rendered moot.

**B. Rejections under 35 U.S.C. §103(a)**

**1) Statement of the rejection**

The Office action states: “*Claims 5, 13, 14, and 18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Siedband (US Patent 5,308,988) in view of McDaniel et al. (US Patent 4,780,897).*”

**Response to the rejection**

**Claim 5, 13, 14, and 18**

Attention is drawn to MPEP 706.2(j) *Contents of a 35 U.S.C. 103 Rejection*, which states in pertinent part:

To establish a *prima facie* case of obviousness, **three basic criteria** must be met. First, there must be some **suggestion or motivation**, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a **reasonable expectation of success**. Finally, the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d

1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria. (Emphasis added)

With reference to the first of the above-mentioned three criteria, it is unfortunate that the Office Action fails to point out some suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or to combine the reference teachings. In this matter, the Office action states that “*(I)t would have been obvious to one of ordinary skill in art at the time invention was made to provide the X-ray imaging system of Siedband with teachings of McDaniel, in order to potentially change the operating characteristics of the gas detector so that improved signal corresponding to the detected x-rays can be produced.*” (Emphasis added). Applicants respectfully traverse this statement, as neither Siedband nor McDaniel provide a suggestion or motivation to modify/combine the references “*so that improved signal corresponding to the detected x-rays can be produced.*” This assertion is borne out by Siedband, who, in his “Summary of the invention,” states: “*(T)he present invention provides a detector using multiple ionization chambers to provide rapid measurement of a radiation beam without the problems associated with constructing a large number of matched amplifiers and integrators,*” and by McDaniel, who, in his col. 1, lines 5-8, states: “*(T)his invention relates to ionization chamber x-ray detectors and more specifically, to a method and apparatus for obtaining a dual energy difference image in a kinestatic charge detector system.*” The Office action fails to accurately point out where in either of these two cited references can be found a suggestion or motivation “*so that improved signal corresponding to the detected x-rays can be produced.*”

Furthermore, with reference to the third of the three criteria mentioned in MPEP, i.e., “the prior art reference (or references when combined) must teach or suggest all the claim limitations,” Applicants respectfully assert that the cited prior art references fail to individually or in combination, teach or suggest, Applicants’ “first and a second gas reservoir that can selectively provide gas from either reservoir to said first chamber.” It is unfortunate that the Office action fails to point out where in the cited prior art can be found such a teaching or suggestion.

Applicants further respectfully assert that it is improper to carry out a rejection of a claim under 35 U.S.C. 103(a), by using hindsight based on Applicants’ disclosure rather than showing in the cited prior art, a teaching or suggestion to make the claimed combination. The impropriety of

using such hindsight has been well established in patent practice, and will consequently, not be elaborated upon any further.

Therefore, for at least the above-mentioned reasons, Applicants respectfully submit that the Office action has failed to establish a *prima facie* case of obviousness as is required for a proper rejection of claim 5 under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, followed by allowance of claim 5.

### **Claims 13, 14, and 18**

System claims 13 and 14 depend on independent claim 2, while method claim 18 depends on independent claim 15. In the interests of brevity the arguments presented above for allowance of dependent claim 5, will not be repeated herein, because the relevancy of those arguments for carrying out similar arguments relating to claims 13, 14, and 18 can be readily understood.

In summary, the cited prior art references do not provide a suggestion or motivation to combine references, nor do they teach or suggest all the claim limitations of Applicants' claims 13, 14, and 18, each of which incorporates the limitations of the respective independent claim. Limitations derived from independent claims, include, for example, with reference to independent claim 2: "*an x-ray stopping component is arranged between said first and second chambers, the x-ray stopping component operative to absorb off-axis photons.*" A second example, with reference to independent claim 15, includes: "*providing a first and a second chamber isolated in part from one another by an x-ray stopping component.*"

Therefore, for at least the above-mentioned reasons, Applicants respectfully submit that the Office action has failed to establish a *prima facie* case of obviousness as is required for a proper rejection of claims 13, 14, and 18 under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, followed by allowance of claim 13, 14, and 18.

### **2) Statement of the rejection**

The Office action states: "*Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siedband (US 5,308,988) in view of Cotic (US Patent 4,276,476).*"

### **Response to the rejection**

#### **Claim 8**

Claim 8 has been canceled without prejudice, waiver or disclaimer. This claim has been canceled merely to reduce the number of disputed issues and to facilitate early allowance and

issuance of other claims in the present application. Because claim 8 has been canceled, the rejection of this claim has been rendered moot.

**3) Statement of the rejection**

The Office action states: “*Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siedband (US Patent 5,308,988) in view of Little et al (US Patent 5,119,408).*”

**Response to the rejection**

**Claims 19 and 20**

Applicants respectfully assert that independent claim 15 is allowable. Because independent claim 15 is allowable, claims 19 and 20 that depend directly or indirectly on claim 15 are also allowable as a matter of law. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request that rejection of claims 19 and 20 under 35 U.S.C. §102(b) be withdrawn, and that these claims be placed in allowance.

**4) Statement of the rejection**

The Office action states: “*Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siedband (US Patent 5,308,988) in view of Ashe et al. (US Patent 4,096,389),*” and further that, “*Claims 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siedband (US Patent 5,308,988) in view of Feige et al. (US Patent 6,204,507) B1 and further in view of Ashe et al. (US Patent 4,096,389).*”

**Response to the rejection**

**Claims 21-32**

Claims 21-32 have been canceled without prejudice, waiver or disclaimer. These claims have been canceled merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application. Because claims 21-32 have been canceled, the rejection of these claims have been rendered moot.

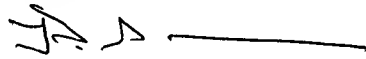
**Prior Art Made of Record**

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

**CONCLUSION**

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 2, 5, 13-16, 18-20 and 33-37 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned representative at (770) 933-9500.

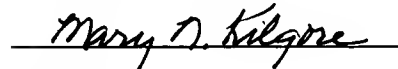
Respectfully submitted,



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